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RETURN RECEIPT REQUESTED

May 4, 2009

Ms. Lucy S. Wang
Associate Environmental Consultant
Eli Lilly and Company, Tippecanoe Laboratories
1650 Lilly Road
Lafayette, Indiana 47909-9201

RE: Conditional Approval of Monitored Natural Attenuation Study Work Plan
Eli Lilly and Company, Tippecanoe Laboratories
IND 006 050 967

Dear Ms. Wang:

The April 9, 2009, *Monitored Natural Attenuation Study Work Plan* for the Tippecanoe Laboratories is hereby approved with the following comments and conditions:

1. As with other halogenated organic compounds, chlorobenzene and pCBT require reducing conditions to allow dechlorination and degradation. In contrast, benzene, THF and n,n-DEA require oxidizing conditions for degradation. How is the monitored natural attenuation (MNA) study going to account for and address the different aquifer redox conditions needed for degradation of the different types of site contaminants?

2. Like aniline in the degradation of n,n-DEA, Lilly must include in the list of laboratory analytical parameters important intermediate compounds in the degradation chains which will document the degradation of "parent" contaminants. These intermediate compounds must have sufficient half-life in the aquifer for their presence to be quantified.

3. As cited above, aniline is a degradation product of n,n-DEA. Aniline is a hazardous constituent under RCRA, and is listed at §264, Appendix IX. If aniline is detected in ground water samples from the Tippecanoe Laboratories, it will henceforth be included in the analyte list for the quarterly monitoring program at the facility.

4. The geochemical parameters for the MNA study should be expanded to include sulfide.

5. Per the rationale provided below, the following monitoring wells will be added to the list of wells to be sampled for the MNA study:

T1804, T1805, T1806, T1816 – increasing concentrations of chlorobenzene (Ref. p.11 of Plume Stability Report)

T1811 – increasing concentrations of benzene, chlorobenzene, and n,n-DEA (Ref. p.11 of Plume Stability Report)

T1818 and T1819 – increasing concentrations n,n-DEA (ref. p.11 of Plume Stability Report)

T1832 – high concentrations of chlorobenzene in Unit IV

T1837 – within southwestern margin of the contaminant plume, may substitute for T1855

T1842 – contamination detected consistently, separate area of contamination

T1880 – high concentrations of n,n-DEA, concerns about aniline

T1888 – at downgradient margin of plume in the Wabash River floodplain

T2002 – areal coverage of the plume core

6. Many of the wells in the highest concentration area of the plume have screen lengths exceeding 20 feet. These wells include: T1804, T1805, T1806, T1811, T1815, T1816, T1817, T1818 and T1819. In order to assess variability of contaminant concentrations through the saturated thickness of the aquifer, Lilly will use either a packer device or equivalent sampling method to collect ground water samples at 5 foot intervals along the screen lengths. Because several of the compounds of concern are highly volatile, ground water samples collected for the MNA study should be collected with a low-flow device.

7. What is the significance of the two separate screened intervals for T1814?

Please contact me at (312) 353-1248 or by e-mail at Heller.Donald@epa.gov if you have questions.

Sincerely,

Donald A. Heller, Corrective Action Project Manager
Corrective Action Section 1
Remediation and Reuse Branch

cc: David Petrovski, CAS 1
Doug Griffin, IDEM